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UTILITY PATENT APPLICATION TRANSMITTAL
(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No. : 40059/RRT/S787
 Inventor(s) : Marcy Casement, Andrew Burgess, and David Folker
 Title : TELEVISION SCHEDULE SYSTEM WITH ACCESS CONTROL
 Express Mail Label No. : EL521382989US

JC675 U.S. PTO
 09/635079

ADDRESS TO: Assistant Commissioner for Patents
 Box Patent Application
 Washington, D.C. 20231

Date: August 8, 2000

1. ☒ **FEE TRANSMITTAL FORM** (*Submit an original, and a duplicate for fee processing*).

2. **IF A CONTINUING APPLICATION**

☒ This application is a continuation of patent application No. 09/343,311.

Prior application information: Examiner A. Rao; Group Art Unit: 2713

— This application claims priority pursuant to 35 U.S.C. §119(e) and 37 CFR §1.78(a)(4), to provisional Application No. .

3. **APPLICATION COMPRISED OF**

Specification

20 Specification, claims and Abstract (total pages)

Drawings

12 Sheets of drawing(s) (FIGS. 1 to 10)

Declaration and Power of Attorney

— Newly executed

— Unexecuted declaration

☒ Copy from a prior application (37 CFR 1.63(d))(for continuation and divisional)

4. — **Microfiche Computer Program** (*Appendix*)

5. — **Nucleotide and/or Amino Acid Sequence Submission** (*if applicable, all necessary*)

— Computer Readable Copy

— Paper Copy (identical to computer copy)

— Statement verifying identity of above copies

6. **ALSO ENCLOSED ARE**

☒ Preliminary Amendment

— A Petition for Extension of Time for the parent application and the required fee are enclosed as separate papers

— Small Entity Statement(s)

— Statement filed in parent application, status still proper and desired

— Copy of Statement filed in provisional application, status still proper and desired

UTILITY PATENT APPLICATION TRANSMITTAL
(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.: 40059/RRT/S787

- ☐ An Assignment of the invention with the Recordation Cover Sheet and the recordation fee are enclosed as separate papers
- ☒ This application is owned by Starsight Telecast, Incorporated pursuant to an Assignment recorded at Reel 8110, Frame 0831
- ☐ Information Disclosure Statement (IDS)/PTO-1449
- ☐ Copies of IDS Citations
- ☐ Certified copy of Priority Document(s) (*if foreign priority is claimed*)
- ☐ English Translation Document (*if applicable*)
- ☒ Return Receipt Postcard (MPEP 503) (should be specifically itemized).
- ☒ Other Substitution of Attorney and Change of Address


7. CORRESPONDENCE ADDRESS

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By



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Reg. No. 43,945
626/795-9900

RRT/cmr

**FEE TRANSMITTAL
UTILITY PATENT APPLICATION**

DATE: August 8, 2000

Docket No. :	40059/RRT/S787
Inventor(s) :	Marcy Casement, Andrew Burgess, and David Folker
Title :	TELEVISION SCHEDULE SYSTEM WITH ACCESS CONTROL

FEE CALCULATIONS					
CLAIMS		NUMBER FILED	NUMBER EXTRA	RATE	CALCULATIONS
A	TOTAL CLAIMS	26 - 20 =	6	6 x \$9.00	\$54
B	INDEPENDENT CLAIMS	3 - 3 =		x \$39.00	
C	SUBTOTAL SMALL ENTITY FEE = A + B LARGE ENTITY FEE = 2 X (A + B)				108
D	BASIC FEE SMALL ENTITY FEE = \$345.00 LARGE ENTITY FEE = \$690.00				690
E	MULTIPLE-DEPENDENT CLAIMS FEE SMALL ENTITY FEE = \$130.00 LARGE ENTITY FEE = \$260.00				
F	TOTAL FILING FEE (ADD LINES C, D, AND E)				798
List Independent Claims: 1, 12 and 21					


METHOD OF PAYMENT

☒ Payment Enclosed: Check for \$798

☒ The Commissioner is hereby authorized to charge any fees under 37 CFR 1.16 and 1.17 which may be required during the **entire pendency** of the application to Deposit Account No. 03-1728. Please show our docket number with any charge or credit to our Deposit Account. **A duplicate copy of this sheet is enclosed.**

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

This paper is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" under 37 CFR § 1.10 Mailing Label No. EL521382989US.

Applicant : Marcy Casement, et al.
 Application No. : To be assigned
 Filed : Herewith
 Title : TELEVISION SCHEDULE SYSTEM
 WITH ACCESS CONTROL
 Grp./Div. : To be assigned
 Examiner : To be assigned
 Docket No. : 40059/RRT/S787

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
 Washington, D.C. 20231

Post Office Box 7068
 Pasadena, CA 91109-7068
 August 3, 2000

Commissioner:

Please amend the above-identified patent application as follows:

In the Specification:

Page 1, line 5, before "BACKGROUND OF THE INVENTION" insert:
 -- CROSS REFERENCE TO RELATED APPLICATION

This application is a continuation of Application No. 09/343,311, filed June 30, 1999, which is a continuation of 08/654,997, filed on May 29, 1996 now issued as U.S. Pat. No. 5,969,748. --

Respectfully submitted,
 CHRISTIE, PARKER & HALE, LLP

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RRT/dsz

CMR PAS265835.1-* -8/8/00 11:34 AM

TELEVISION SCHEDULE SYSTEM WITH ACCESS CONTROL

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BACKGROUND OF THE INVENTION

The present invention relates to a system for providing television schedule information, and more particularly to a television schedule information guide with capability for controlling access to television programs.

Systems are available for providing television schedule information to a user. For example, U.S. Patent No. B1 4,706,121 (Young), provides a television schedule system and process. In one embodiment of Young, the television schedule information is provided on the user's television screen. The user may supply selection criteria which are utilized by the Young system to make program selections, and the like. In addition, Young discloses a system which controls a television receiver to allow for automatic selection of programs and the automatic, unattended recording of programs that are listed in the television schedule information guide. The automatic, unattended recording of programs is achieved by controlling a videotape recorder (VCR) or other recording device.

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SUMMARY OF THE INVENTION

The present invention is directed to a television schedule system with a user interface that allows a user to control access to television programs by time, rating, content, and/or channel. Furthermore, the user may set a limit on pay-per-view (PPV) spending to limit the purchase of PPV programs.

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In a preferred embodiment, the television schedule system has a main menu. A user may select the "Parental Control" (parental control) menu from the main menu to enter the parental password. The parental password may be established from the main menu. After establishing and entering the parental password, the user may lock-out programs by channel, by rating, content, and/or by time from the parental control menu. The content description of the show may further have a corresponding "V-chip" classification based on V-chip rating data supplied by the FCC. Hence, the user may further lock out programs by V-chip

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classification. In order to tune to a locked program, the parental password is preferably supplied.

In one embodiment, the user may select a "control viewing" menu from the main menu to enter a purchase password. The purchase password may also be established from the main menu. After establishing and entering the purchase password, the user may specify a PPV spending limit thereby limiting the purchase of PPV programs. The user may further specify the type of PPV programs allowed based on rating and content. In order to purchase beyond the spending limit, the purchase password is preferably supplied. In order to purchase restricted programs, both the parental and purchase passwords are preferably supplied.

If the user does not remember a password, the user may, for example, call the cable operator. The cable operator may set the password to null so the user may establish a new password.

Other features and advantages of the present invention will become apparent to those skilled in the art upon a perusal of the remaining portions of the specification and drawings. In the drawings, like reference numerals indicate identical or functionally similar elements.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 illustrates a preferred embodiment of a television system according to the present invention;

Fig. 2A shows a preferred embodiment of a pop-up menu shown to a user if a password has not been established, and the user selects parental control from the main menu of a television schedule guide;

Fig. 2B shows a preferred embodiment of a parental control menu shown to a user after a parental password has been established and entered;

Fig. 2C shows a preferred embodiment of a pop-up shown when the user selects a "lock by channel" feature;

Fig. 2D shows a preferred embodiment of a pop-up shown when the user selects a "lock by rating and content" feature;

Fig. 2E shows a preferred embodiment of a pop-up shown when the user selects a "lock by time" feature;

Fig. 2F shows a preferred embodiment of a pop-up shown to a user if a purchase password has not been established, and the user selects a "Set IPPV Spending limits" feature from the control viewing menu;

Fig. 2G shows a preferred embodiment of a pop-up shown to a user if a purchase password has been established, and the user selects the "Set IPPV Spending limits" feature from the control viewing menu;

Fig. 2H shows a preferred embodiment of a IPPV spending limit pop-up shown to a user after a proper purchase password has been established and entered;

Fig. 3 is a process flow chart for determining whether a user could tune to a program;

Fig. 4 is a process flow chart for the operation of the parental control feature;

Fig. 5 is a process flow chart for the operation of the purchase control feature;

Fig. 6 is a process flow chart for verifying a password and limiting a user's number of tries in entering the parental control or purchase password;

Fig. 7 is a process flow chart for determining whether a program has a restricted V-chip classification, and whether access should be allowed;

Fig. 8 is a process flow chart for changing the parental control or purchase password;

Fig. 9 is a process flow chart for establishing the parental control or purchase password; and

Fig. 10 is a process flow chart for removing the parental control or purchase password.

DESCRIPTION OF PREFERRED EMBODIMENTS

The present invention provides a television (TV) schedule system with capability for controlling access to TV programs. Fig. 1 illustrates a preferred embodiment of TV system 1 in which the invention may be utilized. As shown, system 1 includes a distribution center 10 and multiple receiving locations. Distribution center 10 compiles data for a data-stream. In a preferred embodiment, this data-stream is broadcast to receiving locations 16, 18, 20, and 22. Several methods are available for broadcasting the data-stream from distribution center 10 to

receiving locations 16-22. For example, satellite 15 may broadcast this data-stream within the vertical blanking interval (VBI) of a television channel (e.g., PBS) or a dedicated channel to receiving locations 16, 18, 20, and 22. Alternatively, the data may be broadcast out of band, i.e., using non channel specific mechanisms. In another embodiment, the data-stream is provided to receiving locations 16, 18, 20, and 22 via transmission line 13. Transmission line 13 may be, for example, optical fiber, coax cable, telephone line, or the like. In yet another embodiment, peripheral devices, which are located within the receiving locations, receive the data-stream from, for example, a local service provider 40. Service provider 40 receives the data-stream from distribution center 10 via line 17, and broadcasts the data-stream to the receiving peripheral devices via satellite 15 (or another satellite), or via lines 19 and 13. The receiving peripheral devices may be televisions 30, televisions 34, VCRs 32, VCRs 36, and/or set-top boxes 38. In still further embodiments, PCTVs may be utilized, or the data-stream may be provided to a personal computer for use with the computer and/or more of the above devices.

In the preferred embodiment, information in the data-stream includes TV schedule information. Software located within the peripheral devices utilize the schedule information provided in the data-stream to generate a TV schedule guide. The software is stored on a computer-readable storage medium 42 such as a ROM, RAM, disk, or other storage device. If the TV schedule guide is in a grid format, for example, the available channels may be listed on the "y" axis and various times may be listed on the "x" axis. The user may tune to a program within the TV schedule guide by highlighting the program within the guide, and selecting the program. The user may also select one or more desired programs which are listed in the TV schedule guide for automatic, unattended recording. For more information on how the TV schedule system displays information, and its tuning and automatic recording capabilities, see U.S. Patent No. B1 4,706,121 and U.S. Patent No. 5,151,789. Both these patents, like the present patent application, are assigned to StarSight Telecast, Inc., and are hereby incorporated by reference in their entirety for all purposes.

The system further has the capability of preventing viewers from tuning to or viewing one or more TV programs. TV programs may be blocked by channel, rating, content, and/or time. If the user turns on the TV during a locked time, or

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tunes to a channel with a show that contains the locked rating or content/V-chip classification (for example), the television schedule system mutes the audio and displays a solid blue screen over the TV screen. A pop-up will appear asking for the parental password. The solid blue screen will disappear, and mute will be disabled when the correct password is entered.

Fig. 2A shows a preferred embodiment of pop-up 52 shown to a user if a password has not been established, and the user selects parental control from main menu 50. The various menus and pop-ups of the system may be shown as partial screens overlaying underlying full screens, or they may be shown as full screens. As shown, the user is asked to create a parental password by pressing a SELECT key. The SELECT key may also be the ENTER key, and may be on a user input device, or it may be located on the TV schedule guide and entered by directing a cursor to a screen button. If the SELECT key is on the TV schedule guide, a user may highlight it on the guide and input it by pressing an enter key, or any key that functions as an enter key on the user input device. Other keys that may be located on the user input device or the TV schedule guide include the CANCEL key, the REC key, and the EXIT key. Up, down, left and right arrow keys are preferably included to allow a user to navigate and make selections within the pop-up menus. However, any key combinations which allow a user to navigate within the pop-up menus may be used. The parental password may be established from main menu 50 by striking the SELECT key.

Fig. 2B shows a preferred embodiment of parental control menu 54 shown to a user when a parental password has been established, from main menu 50, and the user has entered the correct password. The user may lock TV programs by channel, by rating and/or content, or by time. If the user desires, for example, to lock by time, the user may move the cursor to the "Lock by Time" location and inputs the SELECT key. Alternatively, if programs have been locked, the user may unlock all programs that have been locked.

Fig. 2C is a preferred embodiment of pop-up 56 shown when the user selects the "lock by channel feature." In the preferred embodiment, pop-up 56 includes a list of all channels available to the user. If the user has more channels than will fit in pop-up 56, indicators or scroll bars will be shown at corners of the pop-up instructing the user to move further right or further down to display more

channels. The user may use the previously mentioned arrow keys to navigate within pop-up 56. A channel is locked after a user highlights and selects the channel. A lock symbol will be placed next to the channel icon to indicate that the channel is locked. To unlock a channel, the user may highlight and select the
 5 locked channel. The lock symbol next to the channel icon will then disappear to indicate the lock is removed. The user may use the EXIT key to return to pop-up 54 of the parental control menu.

Since the system stores program information, it is able to determine whether a current or future program is shown on a restricted channel. The system
 10 may also determine whether a program falls within a restricted rating and/or content, V-chip classification, or time period. Hence, if a lock is placed on a channel on which there are programs scheduled for recording, a pop-up will appear warning the user of the conflict. If the user ignores the pop-up, it will time out in three seconds, the channel will be locked, and the recording will occur without the
 15 need for a password as it was set before the lock was enabled. Once a channel is locked, a user may not tune to, record, or purchase any program on that channel unless the user enters the correct password. However, upon entering the correct password, the user may schedule recording of future programs. At the time of the scheduled recording, the system unlocks the locked channel, tunes to the channel,
 20 and records the program. When the program is over, the system relocks the channel.

Fig. 2D is a preferred embodiment of pop-up 60 shown when the user elects to lock programs by rating and/or content. As can be seen, two lists are shown to the user, one by rating, and one by content. The user may lock by
 25 content and/or rating by highlighting the relevant content and/or rating on the pop-up and inputting the SELECT key. Programs may be locked using more than one category of rating and/or content. Furthermore, the content description on pop-up 60 may include information corresponding to data supplied by the V-chip. The V-chip data may be enclosed within parenthesis and will indicate the V-chip attribute
 30 classification of the program. For example, the content category "Violence" may have corresponding V-chip attribute mildly violent (V2), moderately violent (V3), and the like. When the user locks shows according to rating, all higher ratings are

automatically locked. Since the show contents are not listed in order of severity, locking one content does not automatically lock any others.

The user may also lock specified time periods to prevent TV viewing during those times. The user may further specify the frequency of the lock, e.g.,
 5 for a single day, for Monday through Friday only, weekends only, or for every day of the week. Fig. 2E shows pop-up 62, which requests user input for the time period during which TV viewing should be prevented. As shown, the user may specify the time to begin locking (the default time is 2:30pm), the time to end locking (the default time is 5pm), and the frequency of the lock (the default
 10 frequency is for a single day). In the situation where the user has set these values before, the system remembers the values and displays them when pop-up 62 is shown.

If TV viewing is attempted during a locked period, the system will mute the audio, and display a blue screen over video. A pop-up will appear asking for
 15 the parental password. When the correct password is entered, the solid blue screen will disappear, and audio will be re-enabled. If a lock is placed on a time period during which there are programs scheduled for recording, a pop-up will appear warning the user of the conflict. If the user ignores the pop-up, it will time out in three seconds, the channel will be locked, and the recording will occur without the
 20 requirement of a password as it was set before the lock was enabled. However, all future recordings scheduled during the locked period will require a password.

Fig. 2F shows a preferred embodiment of pop-up 64 shown to a user if a purchase password has not been established, and the user selects the "Set IPPV Spending limits" feature from control viewing menu 66. IPPV stands for impulse
 25 pay-per-view, and refers to PPV programs which are purchased via a user input device, for example, a remote control. It is different from traditional PPV programs which require the user to call the program provider on a phone to purchase the program. The user may establish the purchase password, from main menu 50, by inputting the SELECT key either by pressing the key on the user input
 30 device, or selecting it on the TV schedule guide. Fig. 2G shows a preferred embodiment of pop-up 68 shown to a user if a purchase password has been established, and the user selects the "Set IPPV Spending limits" feature from control viewing menu 66. In this case, the user would simply enter the purchase password

and input the SELECT key. As shown in Fig. 2G, if the user made a mistake, the user may input the CANCEL key and re-enter the password.

Once the purchase password has been established and entered, the user will see IPPV spending limit pop-up 70 (as shown in Fig. 2H), and the user may enter the total dollar amount to which IPPV spending should be limited before the system requires a password to enable purchasing. The default spending amount is zero, in which case, the user needs to enter the purchase password for all purchases. Where a dollar amount greater than zero is set, this is the amount the user may spend before the purchase password is required to make additional purchases. To set the amount, the user may input the right arrow key, and with each input of the right arrow key, a dollar would be added to the limit. To decrease the amount, the user may use the left arrow key. The user may use the arrow keys to reset the dollar amount whenever desired.

To access a locked program, the user may select the "Unlock All Locks" feature from parental control menu 54, and all locked programs will be unlocked. Alternatively, the user may unlock all locks from the television schedule information guide by inputting the SELECT key for about 1 second while within the guide. A pop-up will appear, and the user may choose the "Unlock All" option. The system will ask the user for the parental password, and upon entering the correct password, the user may tune to all programs on all the available channels. While the programs are unlocked, the "Unlock All Locks" feature toggles and becomes the "~~Relock All Locks~~" feature and the gray lock symbols in the guides become red unlocked lock symbols. The user may relock all the previously locked programs by selecting "Relock All Locks" from parental control menu 54. Turning off the TV will also automatically restore all parental locks.

Alternatively, the user may unlock individual programs by tuning directly to the programs from either the TV or the TV schedule guide, and entering the correct password. If the user tunes to a locked channel, the system displays a blue screen over the TV screen, and mutes the audio. A pop-up will appear requesting the parental password. If the correct password is supplied, the system removes the blue screen and restores the audio. However, in this case, when the user tunes off a previously locked channel, the parental lock will be automatically restored.

To access individual locked programs from the guide, the user may select whichever locked program the user wishes to view by highlighting it on the guide, and inputting the SELECT key. A password pop-up will appear. If the user enters the correct password, the system tunes to the channel with the desired program. The user may also input the SELECT key for more than 1 second, and a pop-up will appear asking the user whether to tune to or record the locked program. When the user has made a selection, the password pop-up will appear and the user may enter the password. After the correct password has been entered, the system will either tune to or record the locked program. Instead of inputting the SELECT key and selecting the record option on the pop-up, the user may also highlight a locked program and input the REC key to request recording of the program. Recording will proceed when the user has supplied the correct password.

Fig. 4 illustrates a process flow chart for the operation of the parental control feature. When a user turns on the TV, or tunes to a program or channel, the system checks at step 150 whether a parental password is needed before the program(s) will be shown. If a parental password exists, a step 152 of the system checks whether a BOX lock has been set. A BOX lock is essentially a special

Fig. 4 illustrates a process flow chart for the operation of the parental control feature. When a user turns on the TV, or tunes to a program or channel, the system checks at step 150 whether a parental password is needed before the program(s) will be shown. If a parental password exists, a step 152 of the system checks whether a BOX lock has been set. A BOX lock is essentially a special

TIME lock as it keeps the TV locked for 24 hours a day, everyday. If a BOX lock exists, a step 154 displays a pop-up informing the viewer that a password is necessary before the viewer may watch TV, and a step 172 requests that the user enters the parental password. When the user supplies the correct password, the user
 5 may tune to the program, schedule an auto-tune, or schedule a recording of the program at step 168.

If a BOX lock has not been set, the system checks for channel locks at step 156. If none exists, a step 158 checks for a TIME lock. If a TIME lock exists, a step 170 checks whether the current time is within the range of the
 10 restricted times. The user is asked to supply the parental password at step 172 if the user is trying to watch TV at a restricted time. Similarly, if a channel lock exists, and the user is trying to tune to a locked channel, the user would be asked to supply the password at step 172. If the user is watching TV at an unrestricted time, the user may proceed to step 168 and may tune to the program, record the program
 15 and the like.

If no TIME lock has been set, a step 160 checks for a rating/MPAA lock, as the ratings correspond to those set by Motion Pictures of America Association. If a rating lock has been set, a step 164 determines whether the program has a restricted rating. If so, the user is asked to supply the parental password at step
 20 172. On the other hand, if there is no rating lock, a step 162 checks for a content/ATTRIBUTE lock. The system checks at step 166 whether the program contains restricted content, and if so, the user is asked to supply the parental password at step 172. A step 176 further checks whether the program has a V-chip classification if the program does not contain restricted content. If so, a step 178
 25 (details shown in Fig. 7) determines whether the user is trying to gain access to a program with restricted V-chip classifications.

Fig. 5, which describes step 106 in greater detail, illustrates a process flow chart for the operation of the purchase control feature. When a user tunes to a program, a step 200 checks whether a purchase password has been established. If
 30 so, a step 204 checks whether the limit has been exceeded. Step 172 requests for the purchase password if the limit has been exceeded; if not, the system proceeds with the buying process at step 208. If step 200 determines that a purchase

password has not been established, the system will also proceed with the buying process at step 208.

Fig. 6, which describes step 172 in greater detail, illustrates a process flow chart for verifying a password and limiting a user's number of tries in entering the purchase or parental password. At step 250, the user is asked to supply the applicable password. A step 252 receives the user's input, and a step 254 checks whether the password is in a proper format. If the password is improper, for e.g., it has too many characters, a step 256 displays a message informing the user the password is illegal. Step 252 is repeated, and the user may re-enter a proper password. As shown, the user may re-enter the password an infinite number of times if the password is rejected as being improper.

Once the user has entered a proper password, a step 258 verifies that the password entered is correct. If so, a step 260 allows the user access to the locked program. However, when the password entered is incorrect, a step 262 tracks the number of times the user attempts to enter an incorrect password. A step 264 compares the count at 262 with the number 3. If the count at 262 is less than 3, a step 256 displays the illegal password pop-up and the user may re-enter the password at step 252. If the user has attempted to enter a correct password more than three times, a step 266 shows a pop-up informing the user there has been too many attempts to enter the password, and the user has to wait fifteen minutes before attempting to enter the password again. Steps 268 and 270 set the Flag, and start the fifteen minute restriction before allowing the user to re-enter a password.

In a preferred embodiment, disconnecting the system from the power supply will not circumvent the fifteen minute restriction; instead, the user will have to wait longer to re-enter the password as the system resets the fifteen minute period when it is re-connected to the power supply. The system restricts the user to three attempts at entering the correct password to ensure the security of the password. Since an unauthorized user will preferably have to wait at least 15 minutes after every three tries, the unauthorized user is not as likely to crack the password.

Fig. 7, which describes step 178 in greater detail, illustrates a process flow chart for determining whether a program has restricted V-chip classification, and whether the user should be allowed access. Since V-chip data comes from the video stream of a channel, one way to determine whether a program has restricted

V-chip classification is to first tune to the channel to access the data. For example, the user may be watching channel 9, and desires to tune to channel 3. Referring to Fig. 7, if the system determines that the program on channel 3 has V-chip classification, a step 300 saves the video and audio volume information of channel 9. The system determines at step 302 whether the user is changing channels from the TV screen or from within guide. If the user is changing channels from the TV screen, a step 304 puts a blue screen over the TV screen.

Alternatively, where the user is changing channels from within the guide, a step 306 applies a blue border around the guide to block out parts of the screen that are not covered by the guide. At step 308, the system mutes the audio so the user may not hear the program. A step 310 tunes to the requested channel, which is channel 3 in this example, and a step 312 reads the V-chip data from the video stream of the channel. A step 314 determines whether the V-chip classification is a restricted classification. If not, the user may tune to the program on channel 3. However if the program has a restricted V-chip classification, the user is asked to supply the parental password at step 172. A step 316 checks that the user has supplied the correct parental password, if so, a step 318 restores the audio volume of the channel (in this case, channel 3). Depending on whether the user was changing channels while within the TV screen or the guide, either step 324 will remove the blue screen put on by step 304, or a step 322 will clear the guide and the blue border applied by step 306. If access was not verified at step 316, audio remains muted, and the blue screen or the blue border and the guide remains on the screen. The user may, however, attempt to access other channels/programs, which will be shown if they are unrestricted.

In another embodiment, the system need not first tune to the channel to access V-chip data. Since V-chip rating data may be included in the data stream, and received in a similar manner as data regarding program title, description, and the like, the system may receive the V-chip rating data in advance, and store the data in a database. In this embodiment, the system may apply parental control without having to first tune to the channel to access V-chip data, as the system may simply retrieve the data from the database. Referring to the Fig. 7 example, the system may determine, while the user is still within channel 9, whether the program on channel 3 has V-chip classification by retrieving V-chip data information

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Fig. 9 illustrates a process flow chart for establishing the parental control or purchase password. A step 400 requests for the password, and a step 402 receives the user password input. At step 404, the system checks whether the password is in proper form, if not, a step 406 displays an illegal password pop-up, and the user has an unlimited number of times to re-enter a proper password at step 402. If the password entered is in proper form, the user is requested to re-enter the password at step 408 to confirm the password entered is indeed the password desired. A step 410 compares the password entered at step 402 with the password entered at step 408. If the two passwords are different, the user is asked to re-enter the password again at step 408 to confirm the password entered is the password desired, and step 410 again compares the passwords entered.

Fig. 10 illustrates a process flow chart for removing the parental control or purchase password. At step 450, the system displays a pop-up explaining to the user that all programs may be viewed free of restrictions if the user removes the password and asks whether the user wishes to proceed. If the user decides to proceed at step 452, a step 454 requests that the user enters the password. If not, the user exits the process. A step 456 receives the user input if the user decides to

proceed, and a step 458 checks whether the password is in proper form. If not, a step 460 displays an illegal password pop-up, and the user has an unlimited number of times to re-enter a proper password at step 456. If the password entered is in proper form, a step 462 verifies that the password is in fact the correct password.

- 5 A step 464 keeps count of the number of times an incorrect password is entered.

As shown by steps 466, 460 and 456, the user is given three attempts to enter a correct password. After three attempts, if the password entered is still incorrect, step 468 displays a "Too Many Attempts" pop-up. The user has to wait fifteen minutes before the system will allow any further password input attempts, as
10 steps 470 and 472 set the flag and start the fifteen minute restriction. As mentioned, the user preferably may not circumvent the fifteen minute wait by disconnecting the system from the power supply. The user is allowed to remove the password at step 474 if the user supplied the correct password at step 462.

The above description is illustrative and not restrictive. Variations of the
15 invention will become apparent to those skilled in the art upon review of this disclosure. The scope of the invention should, therefore, be determined not with reference to the above description, but instead should be determined with reference to the appended claims along with their full scope of equivalents.

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1 WHAT IS CLAIMED IS:

1. A method of exercising access control over television programs comprising the steps of:

5 storing a first password;
entering a criterion for blocking a television program from being viewed;
displaying a plurality of television program listings on a screen;
selecting one of the displayed listings for viewing or recording;
requesting a viewer to input a password if the selected program meets the blocking

10 criterion; and

unblocking the selected program that meets the blocking criterion so it can be viewed or recorded if the viewer inputs a password that matches the first password responsive to the request.

15 2. The method of claim 1, in which the step of entering a criterion comprises:
displaying on the screen a list of criteria; and
selecting the criterion to enter from the list of criteria.

20 3. The method of claim 1, in which the step of entering a criterion comprises:
displaying on the screen a prompt to the viewer to enter a password;
displaying on the screen a list of criteria if the viewer inputs a password that matches the first password responsive to the prompt;
selecting the criterion to enter from the list of criteria;
removing the list of criteria from the screen after the criterion has been entered; and
25 preventing selection of another criterion until a matching password is input.

4. The method of claim 1, in which the step of entering a criterion enters a program rating.

30 5. The method of claim 1, in which the step of entering a criterion enters a channel identification.

6. The method of claim 5, further comprising the step of displaying a lock symbol next to the channel identification in the program listings.

35 7. The method of claim 1, in which the step of entering a criterion enters a time period.

1 8. The method of claim 1, in which the step of entering a criterion enters a spending
limit for pay-per-view programs.

5 9. The method of claim 1, further comprising the step of tuning to the selected
program for viewing or recording if the selected program does not meet the blocking criterion.

 10. The method of claim 1, in which the unblocking step comprises the step of
unblocking all of the programs.

10 11. The method of claim 1, in which the step of unblocking the selected program
comprises verifying the password and preventing the viewer from entering the password for a
predetermined period of time if the password was entered incorrectly for a predetermined number
of attempts.

15 12. A parental control system comprising:
 a display screen;
 an input device for entering a first password and a criterion for blocking television
programs from being viewed;
 a display processor for displaying a plurality of television program listings on the
20 screen;
 a pointing device for selecting one of the displayed listings for viewing or
recording;
 a pop up window for prompting a viewer to enter a second password if the selected
program meets the blocking criterion; and
25 a processor for unblocking the selected program that meets the blocking criterion
so it can be viewed or recorded if the viewer enters a second password that matches the first
password.

30 13. The system of claim 12, in which the display processor displays on the screen a list
of criteria if the viewer enters a password that matches the first password and processes a selected
criterion from the list of criteria.

35 14. The system of claim 12, in which the display processor displays on the screen a list
of criteria; and the processor processes a selected criterion from the list of criteria and prevents
selection of another criterion until a matching password is entered.

 15. The system of claim 12, in which the input device enters a program rating as a
criterion.

1 16. The system of claim 12, in which the input device enters a channel identification
as a criterion.

5 17. The system of claim 16, in which the display processor further displays a lock
symbol next to the channel identification in the program listings.

 18. The system of claim 12, in which the input device enters a time period as a
criterion.

10 19. The system of claim 12, in which the input device enters a spending limit for pay-
per-view programs as a criterion.

15 20. The system of claim 12, in which the processor verifies the password and prevents
the viewer from entering the password for a predetermined period of time if the password was
entered incorrectly for a predetermined number of attempts.

20 21. An interactive program guide including a parental control system comprising:
a display screen;
a memory for storing a first password;
an input device for entering a criterion for blocking television programs from being
viewed;
means for displaying a plurality of television program listings on a screen;
means for selecting one of the displayed listings for viewing or recording;
means for requesting a viewer to input a password if the selected program meets
25 the blocking criterion; and
means for unblocking the selected program that meets the blocking criterion so it
can be viewed or recorded if the viewer inputs a password that matches the first password
responsive to the request.

30 22. The guide of claim 21, in which the input device enters a program rating as a
criterion.

 23. The guide of claim 21, in which the input device enters a channel identification as
a criterion.

35 24. The guide of claim 16, in which the display processor further displays a lock
symbol next to the channel identification in the program listings.

25. The guide of claim 21, in which the input device enters a time period as a criterion.

26. The guide of claim 21, in which the input device enters a spending limit for pay-per-view programs as a criterion.

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TELEVISION SCHEDULE SYSTEM WITH ACCESS CONTROL

ABSTRACT OF THE DISCLOSURE

5

The present invention is directed to a television schedule system with a user interface which allows a user to control access to television programs by time, rating, content, and/or channel. Furthermore, the user may set a limit on pay-per-view (PPV) spending to limit the purchase of PPV programs.

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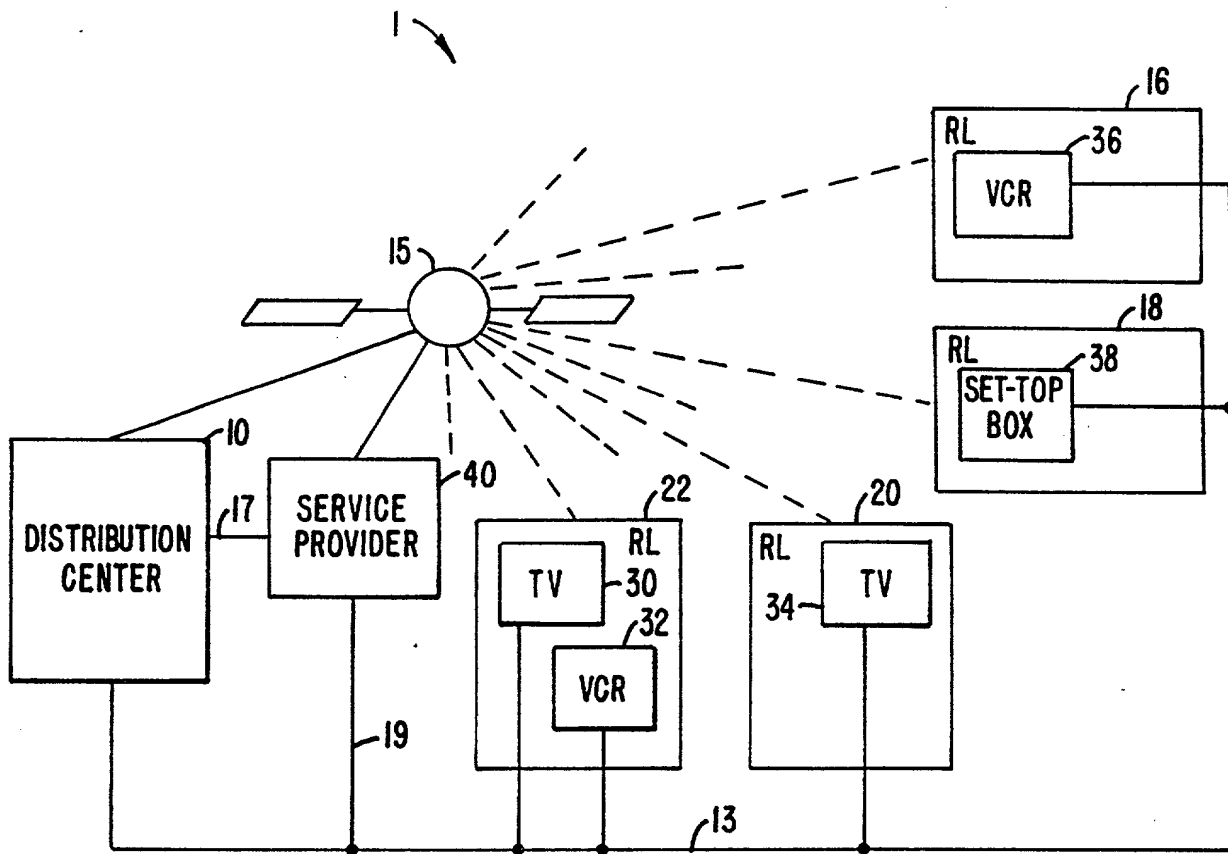


FIG. 1.

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MAIN MENU

Set Up Channels
Parental Control

To set up Parental Control
you must first create
a Parental Password.
Press SELECT now to create
a password.

Select your channel order
and favorite channels.

FIG. 2A.

PARENTAL CONTROL

Unlock All Locks
Lock by Channel
Lock by Rating & Content
Lock by Time

Temporarily unlocks all the
locks you previously selected.

FIG. 2B.

LOCK BY CHANNEL

2	AMC	WWOR	BRAV
4	MEU	26	BET
5	CNN	CSP2	HSC
7	TNT	MAX	50
HBOE	NICK	CNBC	VISN
9	TBS	TMN	HBO
VC1	20	SHOW	VH12
PTX	ABC	REQ	MTV
VC2	22	DISN	6
32	USA	REQ2	NVO
VC2	22	DISN	PPV

M
O
R
E

Use ARROWS then SELECT to choose
KQED-PBS CH 9 MAY 23 8:17P

FIG. 2C.

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FIG. 2E.

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Control TV Viewing 66

For Spending Limits to be effective, you must first create a purchase password. To set up your purchase password press SELECT now. 64

Set IPPV Spending Limits

Set limits on Impulse Pay-Per-View purchasing.

FIG. 2F.

Control TV Viewing 66

Please enter your purchase password. 68

Press SELECT.
If you make a mistake press CANCEL.

Set IPPV Spending Limits

Set limits on Impulse Pay-Per-View purchasing.

FIG. 2G.

SET IPPV SPENDING LIMIT

Limit IPPV spending to:

◀ \$16.00 ▶ 70

Once this limit has been met your password will be needed to purchase additional shows.

Press ◀▶ to change amount.
Press EXIT when done
or CANCEL to clear amount.

FIG. 2H.

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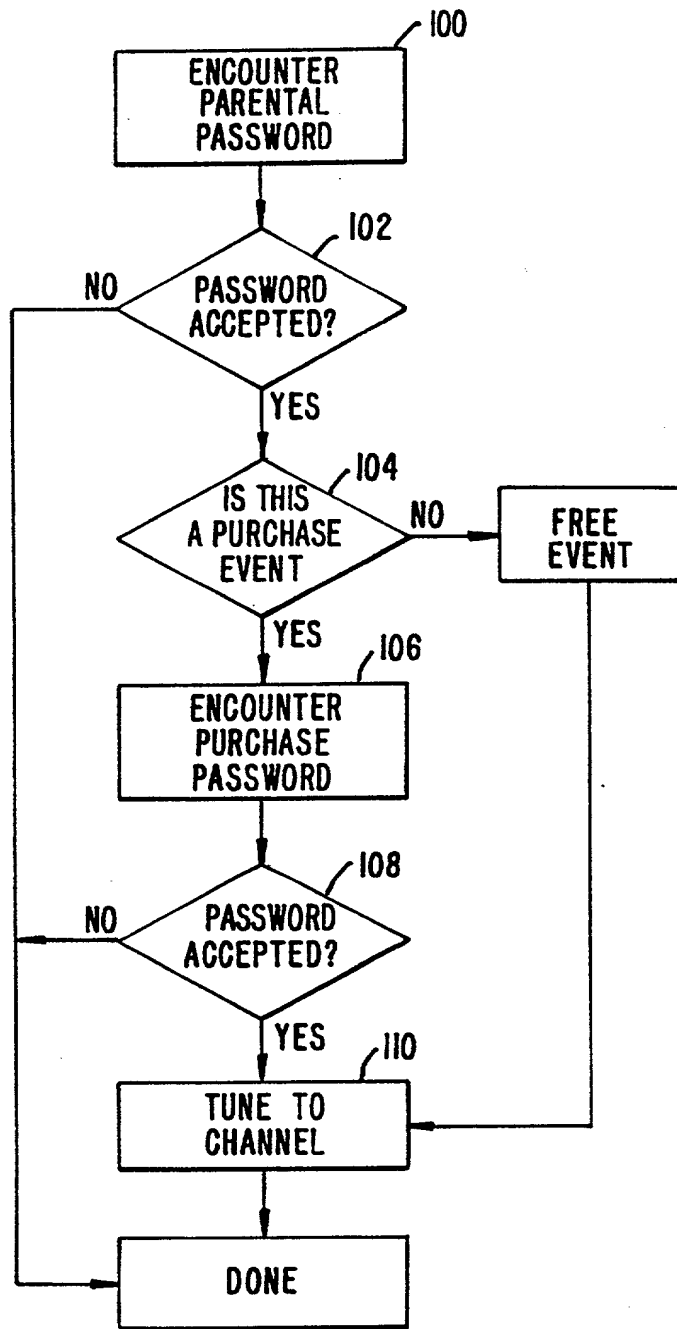


FIG. 3.



FIG. 4.

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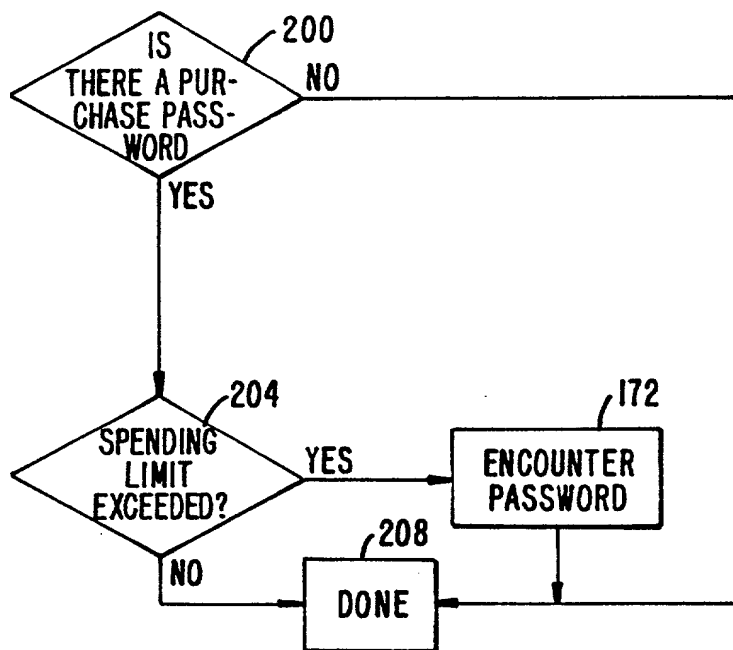


FIG. 5.

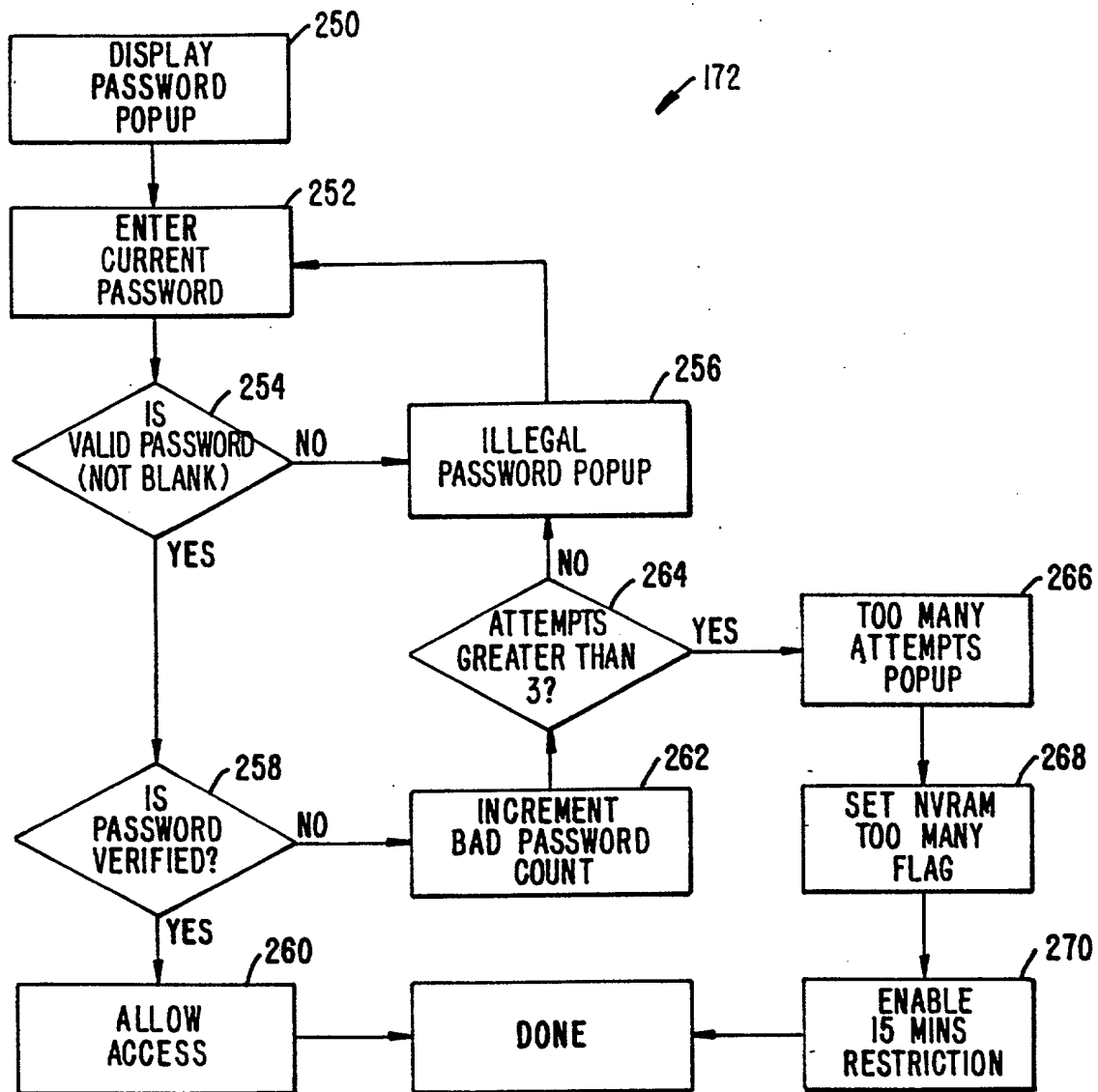


FIG. 6.

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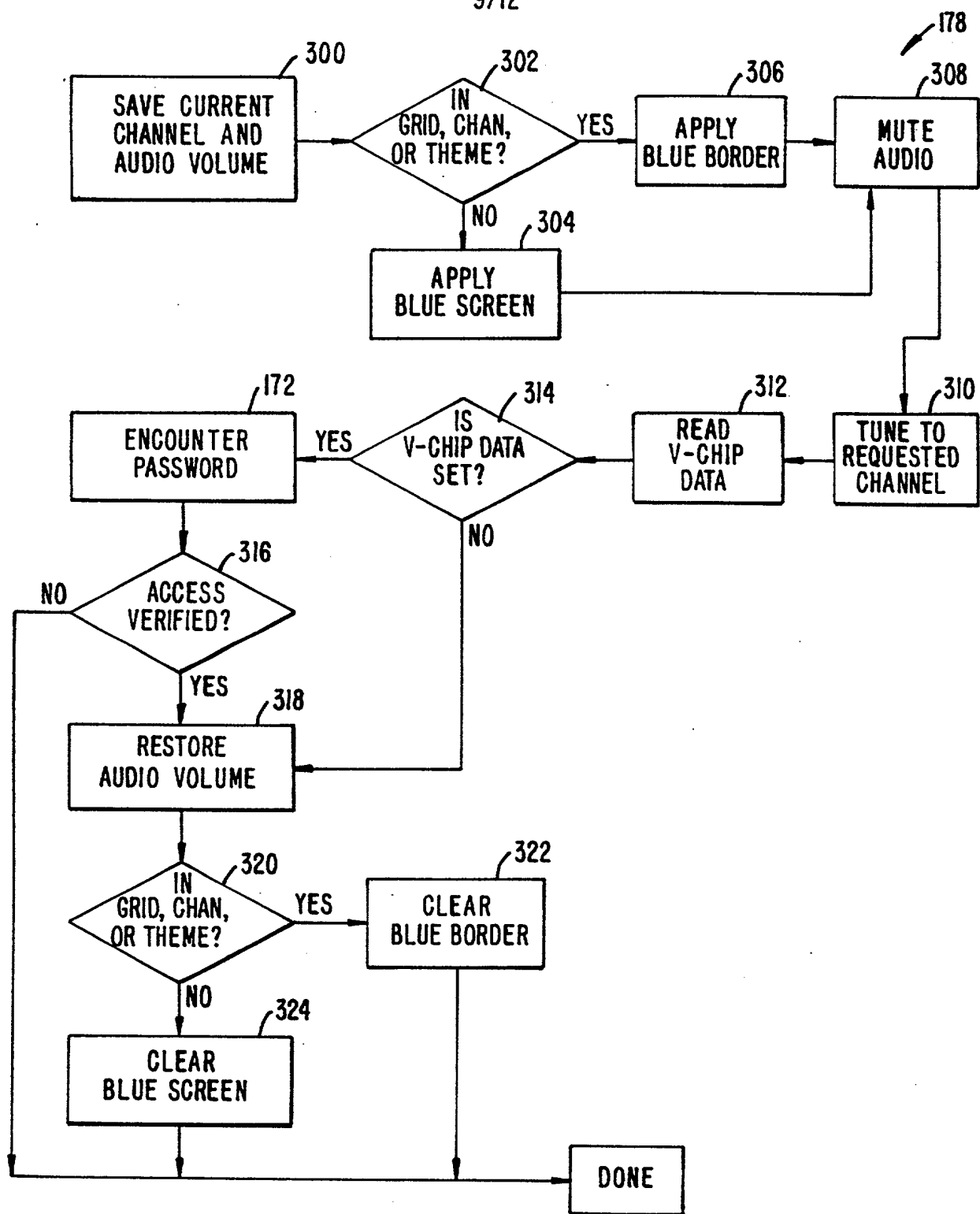


FIG. 7.

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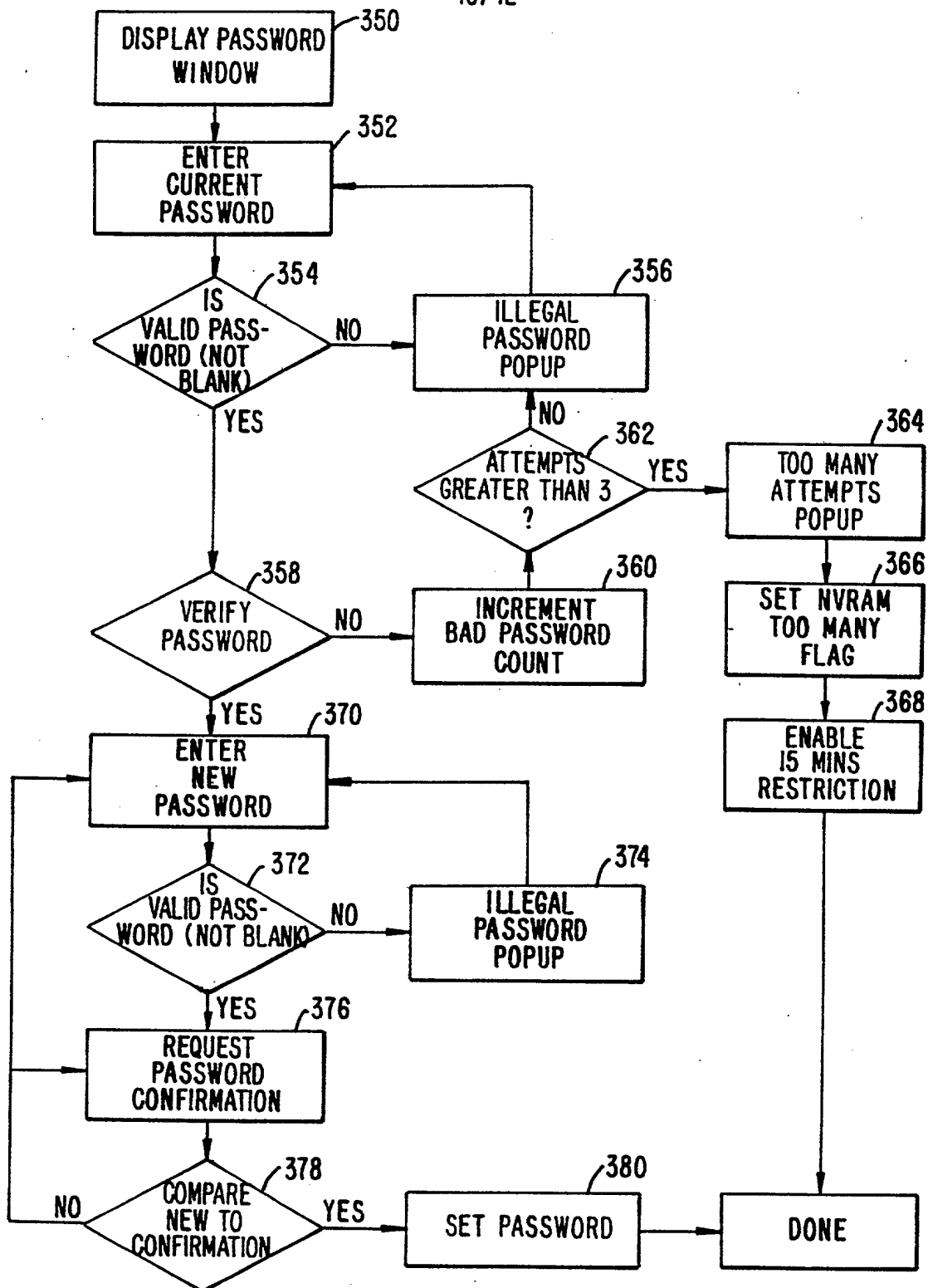


FIG. 8.

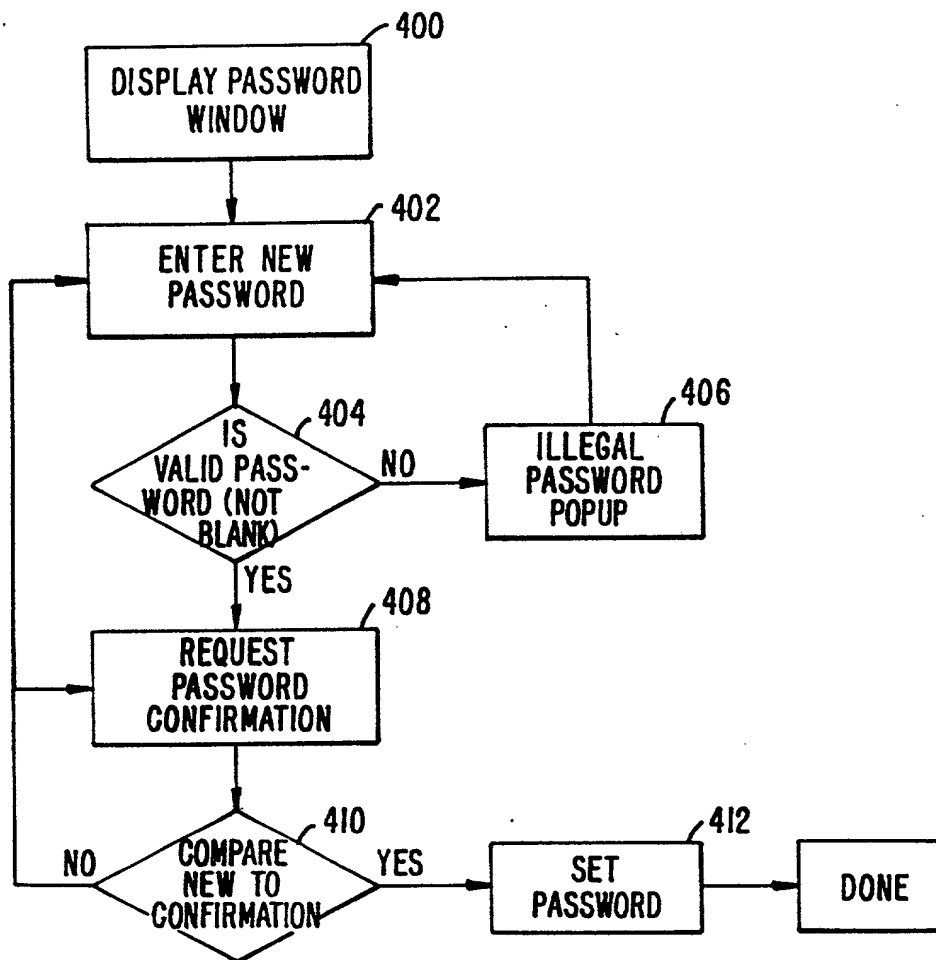


FIG. 9.

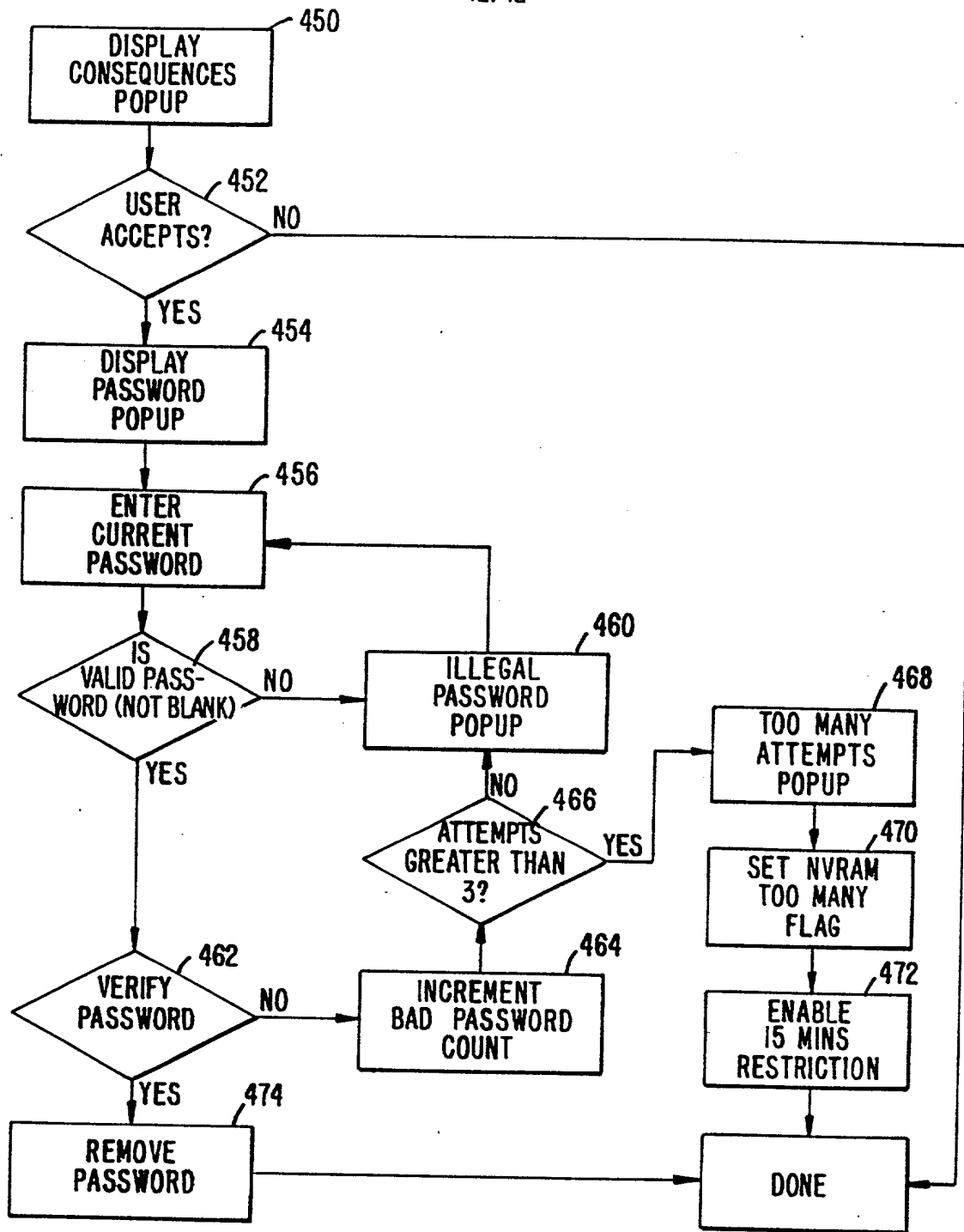


FIG. 10.

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I declare that:

My residence, post office address and citizenship are as stated below next to my name; I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: **TELEVISION SCHEDULE SYSTEM WITH ACCESS CONTROL** the specification of which _____ is attached hereto or X was filed on May 29, 1996 as Application No. 08/654,997 and was amended on _____ (if applicable).

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56. I claim foreign priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Country	Application No.	Date of Filing	Priority Claimed Under 35 USC 119
			Yes ____ No ____
			Yes ____ No ____

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below:

Application No.	Filing Date

I claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application No.	Date of Filing	Status
		____ Patented ____ Pending ____ Abandoned
		____ Patented ____ Pending ____ Abandoned

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Vernon A. Norviel, Reg. No. 32,483

Alice L. Wong, Reg. No. 39,449


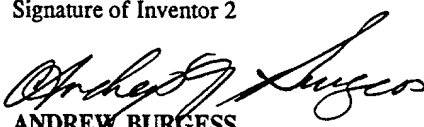

David G. Beck, Reg. No. 37,776

John T. Raffle, Reg. No. 38,585

Send Correspondence to: Vernon A. Norviel TOWNSEND and TOWNSEND and CREW LLP Two Embarcadero Center, 8th Floor San Francisco, CA 94111-3834	Direct Telephone Calls to: (Name, Reg. No., Telephone No.) Name: Alice L. Wong Reg. No. 39,449 Telephone: 415-326-2400
---	--

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Full Name of Inventor 2	Last Name BURGESS	First Name ANDREW	Middle Name or Initial	
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Full Name of Inventor 3	Last Name FOLKER	First Name DAVID	Middle Name or Initial	
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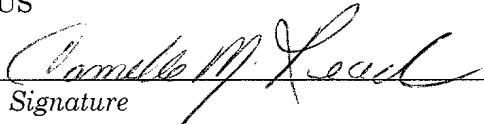
I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature of Inventor 1  MARCY CASEMENT	Signature of Inventor 2  ANDREW BURGESS	Signature of Inventor 3  DAVID FOLKER
Date 8/1/96	Date 8/6/96	Date 8-1-96

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Signature

Applicant : Marcy Casement, et al.
Application No. : Unknown
Filed : Herewith
Title : TELEVISION SCHEDULE SYSTEM WITH ACCESS CONTROL
Grp./Div. : Unknown
Examiner : Unknown
Docket No. : 40059/RRT/S787

SUBSTITUTION OF ATTORNEY AND CHANGE OF ADDRESS

BOX PATENT APPLICATION
Commissioner of Patents and Trademarks
Washington, D.C. 20231


Post Office Box 7068
Pasadena, CA 91109-7068
August 8, 2000

Commissioner:

This letter is to request that the undersigned attorney be made of record for the above-identified patent application. A copy of the Substitution of Attorney from the parent case, Serial No. 08/654,997, was filed in the Patent Office with the parent application on June 30, 1999, a copy of which is enclosed.

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By 
Raymond R. Tabandeh
Reg. No. 43,945
626/795-9900

Enclosures: Copy of Substitution of Attorney

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Marcy Casement, et al.
 Application No. : 08/654,997
 Filed : May 29, 1996
 Title : TELEVISION SCHEDULE SYSTEM WITH ACCESS CONTROL

 Grp./Div. : 2713
 Examiner : A. Rau

 Docket No. : 32533/LTR

SUBSTITUTION OF ATTORNEY BY ASSIGNEE

Commissioner of Patents and Trademarks
 Washington, D.C. 20231

Commissioner:

StarSight Telecast, Incorporated, assignee of the entire interest in and to the above-identified U.S. patent application under an Assignment recorded in the U.S. Patent and Trademark Office on August 15, 1996, at Reel 8110, Frame(s) 0831, hereby revokes all previous Powers of Attorney and appoints:

R. W. Johnston	(17,968)	Vincent G. Gioia	(19,959)	Syed A. Hasan	(41,057)
D. Bruce Prout	(20,958)	Edward R. Schwartz	(31,135)	Hazim H. Ansari	(40,896)
Hayden A. Carney	(22,653)	John D. Carpenter	(34,133)	Samir B. Armaly	(40,898)
Richard J. Ward, Jr.	(24,187)	David A. Plumley	(37,208)	Robert D. Rowlett	(41,279)
Russell R. Palmer, Jr.	(22,994)	Wesley W. Monroe	(39,778)	Kathleen M. Olster	(42,052)
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Walter G. Maxwell	(25,355)	John W. Eldredge	(37,613)	Lucinda Grace Auciello	(42,270)
William P. Christie	(29,371)	Yar R. Chaikovsky	(39,625)		
David A. Dillard	(30,831)	Gregory S. Lampert	(35,581)		
Thomas J. Daly	(32,213)	Craig A. Gelfound	(41,032)		

all members or associates of or of counsel to the firm CHRISTIE, PARKER & HALE, LLP, telephone (626) 795-9900, as principal attorneys with power to appoint associate attorneys, to prosecute this application and any subsequent application based on the disclosure of this application, and to transact all business in the Patent and Trademark Office connected with this application and any subsequent application.

Application No. 08/654,997

The authority under this Power of Attorney of each person named above shall automatically terminate and be revoked upon such person ceasing to be a member or associate of or of counsel to that law firm.

Please address all correspondence to **CHRISTIE, PARKER & HALE, LLP, P.O. Box 7068, Pasadena, California 91109-7068.**

STARSIGHT TELECAST, INCORPORATED

Date _____

6/14/96

By

Jonathan B. Orlick

VP Intellectual Property & Licensing

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